

Further data on the Nicolettidae (*Zygentoma*), with description of a new species from Mauritius

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Further data on the Nicolettidae (*Zygentoma*), with description of a new species from Mauritius. - *Lepidospora* (*L.*) *mascareniensis* sp. n. is described from Mauritius. New data are reported on *Coletinia mendesi* Wygodzinsky in Portugal, and *C. maggii* (Grassi) is recorded for the first time from France.

Key-words: Nicolettidae - Mauritius - Europe - New species - New data.

INTRODUCTION

The present paper deals with the study of one new species of *Lepidospora* s. s. (Nicoletiidae) collected in Mauritius Island and with a few samples of another genus of the same family, *Coletinia*, from Portugal and France. *L. (L.) mascareniensis* sp. n. is the first thysanuran recorded from Mauritius.

The material is deposited in the following collections: Centro de Zoologia of the Instituto de Investigação Científica Tropical, Lisboa, Portugal (CZ); Muséum d'histoire naturelle, Geneva, Switzerland (MHNG) and Muséum National d'Histoire Naturelle, Paris, France (MNHNP).

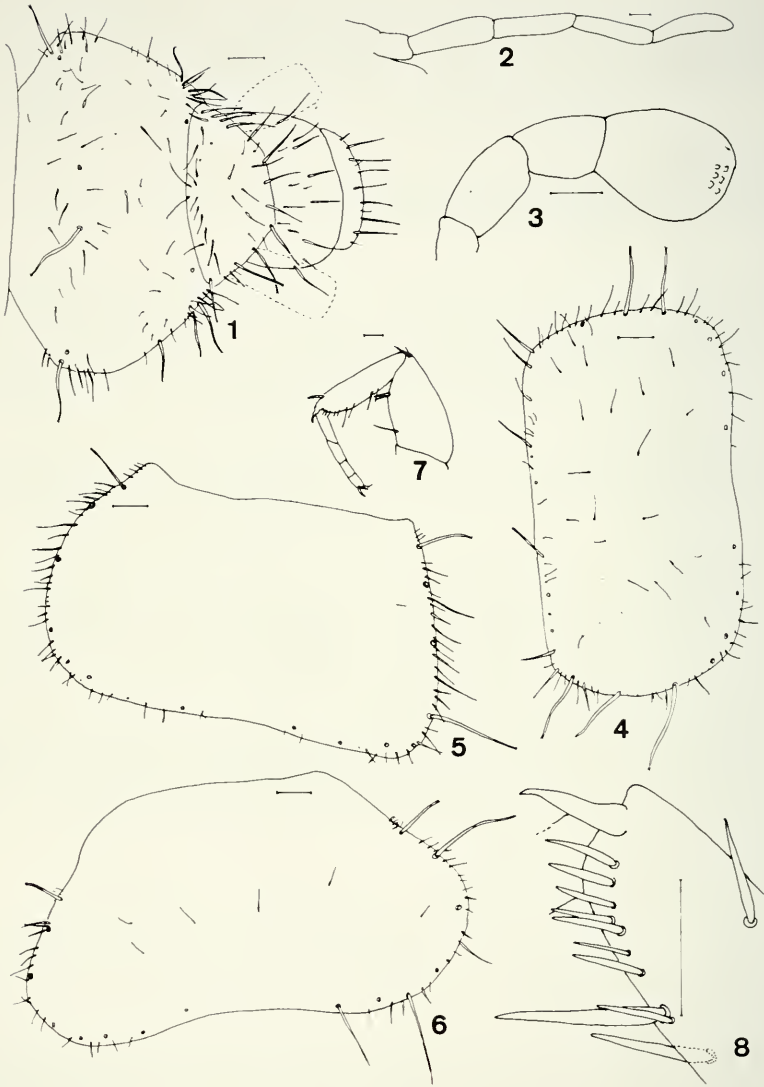
Lepidospora (*L.*) *mascareniensis* sp. n.

Material examined: Ile Maurice — Trois Cavernes, near Cascavelle, 6–8/XI/1994, 1 ♀ holotype, leg. P. Strinati (MHNG).

Body length: 5.8 mm; thorax length: 1.9 mm; thorax width: 1.4 mm; antennae (damaged): 3.5 mm.

Body elongated, more or less parallel-sided. Hypodermal pigment absent, the general colour whitish. Macrochaetae light brown, the stronger ones apically bipid. Scales typical, with a moderate number of thin rays.

Head as in Fig. 1, with some strong elongated macrochaetae, the scales restricted to the posterior half of the cephalic capsule. Antennae typical, not completely preserved.



FIGS 1-8

Lepidospora (L.) mascareniensis sp. n. ♀ Fig. 1 – Head, dorsal view; Fig. 2 – Maxillary palp; Fig. 3 – Labial palp; Fig. 4 – Pronotum; Fig. 5 – Mesonotum; Fig. 6 – Metanotum; Fig. 7 – P I; Fig. 8 – Ibid., detail of the apical tibia chaetotaxy. Scales: 0.1 mm.

Mandibles strongly sclerotized, with several acute teeth. Maxillae without special features, the galea with two well developed cylindrical apical conules. Maxillary palp as in Fig. 2, with some quite strong and elongated macrochaetae in the basal articles; distal article 4–5 times longer than wide, its length similar to that of the preceding one. Labium typical, with a few scattered setae, the labial palp with its apical article not much longer than wide, as in Fig. 3.

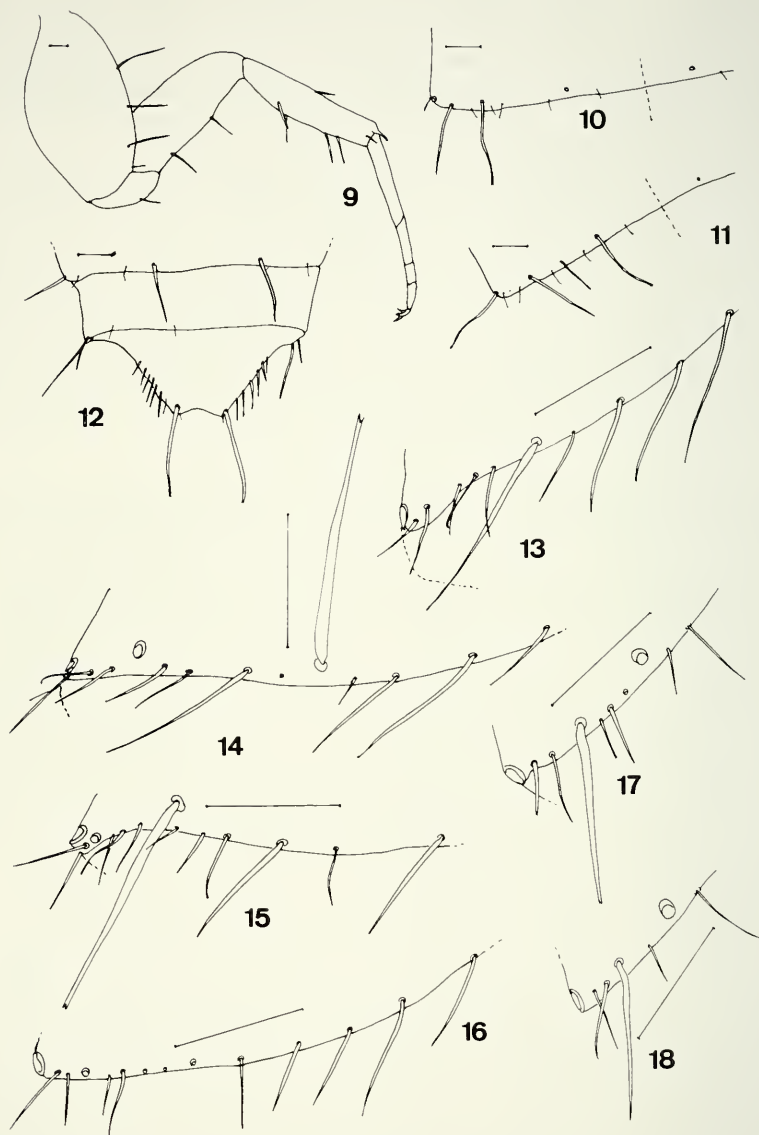
Nota with the hind border almost straight to not deeply excavated (Figs 4–6) with some strong lateral and posterolateral macrochaetae, the disc with scales and with a few scattered thin and acute setae, which are more numerous in the pronotum. Legs delicate, the outer surface of tibia I (Figs 7 and 8) with a row of distal and distal ventral spines; ventral spiniform setae robust, those of tibia I long, similar to the tibial diameter. the tibia about 3 times longer than wide; P III (Fig. 9) longer than P I, the tibia more than 4 times longer than wide. Praetarsus typical and complete, the lateral claws well developed in all pairs, smooth, the empodium smaller and clearly spinulated.

Urotergites scally, the I–VI in the dorsal surface of body with 1 + 1 submedian, 1 + 1 sublateral, 1 + 1 lateral and 1 + 1 infralateral macrochaetae and a few isolate hind marginal setae (Fig. 10). In the VIIth urotergite, the sublateral macrochaetae are clearly shorter and more delicate than the remaining ones as in Fig. 11; in the VIIIth urotergite the submedian and the infralateral macrochaetae are the only ones present (Fig. 12), and in the IXth urotergite, all the macrochaetae are missing, with the exception of those of the infralateral pair – these ones, are accompanied by one inner long and thin spiniform seta – as in Fig. 12; Xth urotergite (same figure) wide and not specially shortened, its distal margin poorly emarginated and not angulous, the distance between the strong elongated posterolateral macrochaetae similar to half their own length; lateral margins with a row of 6–7 strong short setae; in the inner area of the posterolateral macrochaetae, close to them, 1 + 1 short and delicate spinule. Ventral area of the urotergites with thin setae, cilia and one or two macrochaetae (sometimes visible only by their insertions) as in Figs 13–19.

Urosternite I typical, subdivided in one triangular sternite and 1 + 1 wide lateral coxites, almost devoided of setae. Urosternites II–VI as in Fig. 20, with 1 + 1 anterior and 1 + 1 posterior submedian macrochaetae besides the marginal short setae; in the Vth urosternite (abnormal) the right stylet is missing and replaced by a series of thin setae, as in Fig. 21. Subgenital plate very short and widely parabolic, as in Fig. 22. As typical, stylets present in the urosternites II–IX, fusiform, the most posterior with a few very strong spines, the vesicles in the urosternites II–VII (the VIIth with reduced pseudovesicles). Ovipositor strong and fusiform (Fig. 23), extending beyond the level of the IXth stylets by about 2/3–3/4 of their own length. Gonapophyses with 14–15 articles, provided with thin setae only, the anterior pair stronger, their distal articles as in Figs 24 and 25.

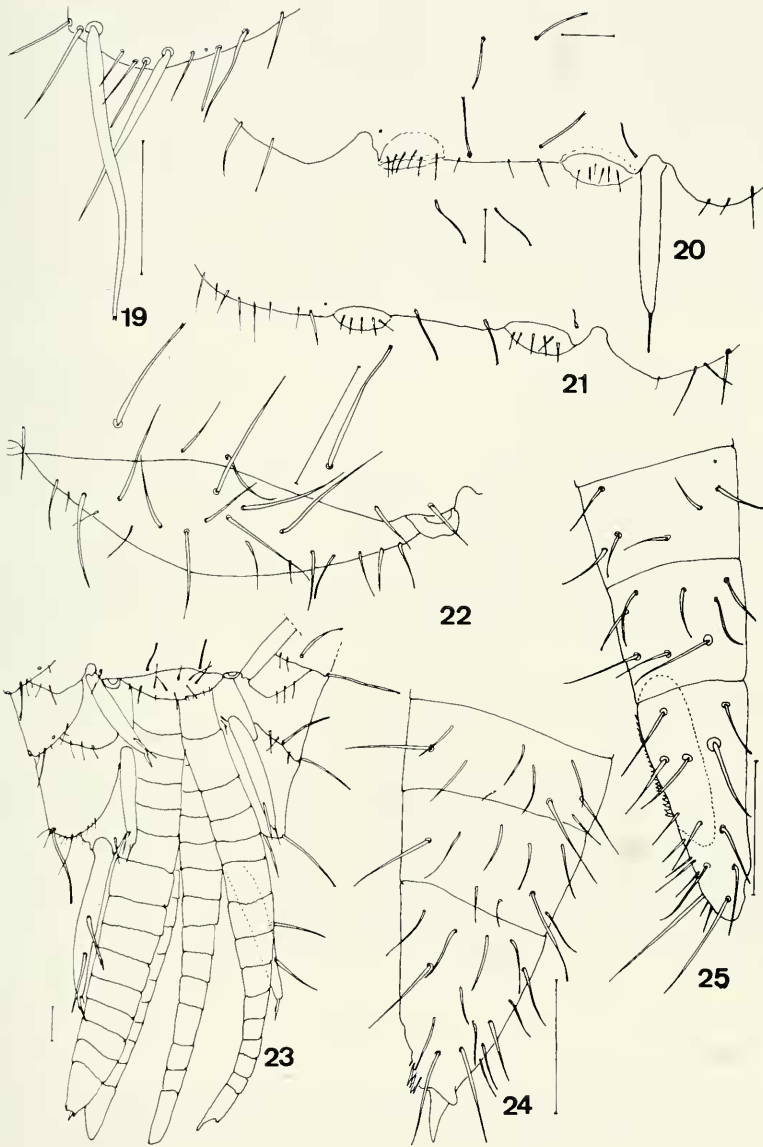
Cerci and terminal filament typical, with very strong and elongated macrochaetae, apically damaged.

Derivatio nominis: Dedicated to D. Pedro de Mascarenhas, who discovered the island of Reunion (one of the Mascarene Islands, like Mauritius) in 1505.



FIGS 9-18

Lepidospora (L.) mascareniensis sp. n. ♀ Fig. 9 - P III; Fig. 10 - Vth urotergite; Fig. 11 - VIIth urotergite; Fig. 12 - IXth and Xth urotergites; Fig. 13 - Infralateral chaetotaxy of IIIrd urotergite; Fig. 14 - Ibid. of urotergite IV; Fig. 15 - Ibid. of urotergite V; Fig. 16 - Ibid. of urotergite VI; Fig. 17 - Ibid. of urotergite VII; Fig. 18 - Ibid. of urotergite VIII. Scales: 0.1 mm.



FIGS 19-25

Lepidospora (L.) mascareniensis sp. n. ♀ Fig. 19 - Infralateral chaetotaxy of IXth urotergite; Fig. 20 - IIIrd urosternite; Fig. 21 - Vth anomalous urosternite (the right stylet is lacking); Fig. 22 - Posterior border of VIIIth urosternite and subgenital plate; Fig. 23 - Ventral posterior area of abdomen; Fig. 24 - VIIIth gonapophyses, distal articles; Fig. 25 - IXth gonapophyses, distal articles. Scale: 0.1 mm.

Discussion: *Lepidospora (L.) mascareniensis* sp. n., though known by the holotype female only, is well characterized among the remaining Afrotropical and Malagasy known species. *L. afra* Silvestri, from Kenya and Tanzania (SILVESTRI 1908 *b* and 1918). *L. meridionalis* Silvestri, from Natal and Zululand (SILVESTRI 1913 *a*) and *L. vilhena* Silvestri, from Angola (SILVESTRI 1949), present a much longer ovipositor, which extends beyond the level of the IXth stylets by 1.5–2 times their own length (2/3–3/4 of this length in the new species); further, *L. meridionalis* and *L. vilhena* present, both, a much thinner ovipositor composed by a greater number of articles (20–26 versus about 15 in the new species), and *L. afra* (with a similar number of articles) distinct Xth urotergite and a quite different subgenital plate. *L. insularum* Wygodzinsky, from the atlantic coast of the Cape Province (WYGODZINSKY 1955), presents a more deeply incised Xth urotergite, a distinct subgenital plate and a different cephalic chaetotaxy. *L. braueri* Escherich, from the Seychelles (ESCHERICH 1905), which female sex was described by CARPENTER (1916), presents a shorter ovipositor and not clearly annulated gonapophysis (not completely developed female though long as 11 mm?) shows a much more deeply incised Xth urotergite, a more rounded and enlarged subgenital plate and also (if Carpenter's figure is correct) an unique empodial claw shape.

Relatively to the Palearctic and Oriental described *Lepidospora* s. s., the new taxon seems to approach particularly *L. ceylonica* Silvestri, from Sri Lanka and India (SILVESTRI 1911) and *L. wygodzinskyi* Mendes, from the Kos and Rhodes Islands (MENDES 1992 and, as *L. escherichi*, WYGODZINSKY 1980), both with a similar ovipositor: however, the oriental taxon is clearly bigger (8 mm body length), with a distinct shape of the subgenital plate, a different chaetotaxy and a deeper excavation in the Xth urotergite, and the mediterranean species has shorter ovipositor, with a lower number of articles, and presents also a different chaetotaxy and a deeper Xth urotergal notch. *L. kurda* Mendes, from the iraqian Kurdistan (MENDES 1985) and *L. notabilis* Silvestri, from India (SILVESTRI 1913 *b*), both known by the males only, are completely isolated under the geographical point of view. All the remaining species show much shorter ovipositor, exceeding the level of the IXth stylets by no more than half their own length, as well as a much deeper Xth urotergite incision: *L. buxtoni* Silvestri, from the eastern Iraq (SILVESTRI 1923), *L. silvestrii* Wygodzinsky, from Israel (see WYGODZINSKY 1942) and *L. escherichi* Silvestri, from the Corfu island (SILVESTRI 1908 *a*, recently redescribed upon almost topotypical material off the greek islands of Leucade and Ipiros by MENDES 1985).

L. grassi Escherich, from Sicily and (?) continental Italy (?) (WYGODZINSKY 1980) and *L. gracilis* Escherich, from Sumatra (ESCHERICH 1905) are much more difficult to compare with the remaining *Lepidospora* s. s., on account of their short and undetailed descriptions; however, both belong to the 'long-type' ovipositor and *L. grassi* has, further, an atypical, enlarged, lepismatoid body shape.

Coletinia mendesi Wygodzinsky, 1980

Material examined: Portugal – Lapa de Colaride (Cacém), 20/III/1993, 1 ♂ 1 ♀, leg. F. Regalo & R. Mergulho (CZ); *ibid.*, 11/IX/1993, 1 ♂, *ibid.*, (CZ). Lisboa, archaeological excavations of Sé Velha de Lisboa, nos claustros, no date, 1 young ♀, leg. R. Mergulho (CZ).

Coletinia mendesi was described upon material collected in the Algarve Province, southern Portugal (WYGODZINSKY 1980) and further recorded from southern Spain, in the Cordoba Province, Andaluzia (ROCA *et al.* 1985). The newly referred material, clearly enlarges northward (about 300 Km) the known distribution of the species, and the specimens from the Lapa de Colaride represent the first reference to *C. mendesi* as a troglobiont; the male collected in the 20th March, with 8.1 mm of body length, is much bigger than the type-specimen (6.7 mm only), though all the major features agree to what is mentioned in the original description; the typical elongation of the second tibia ventral macrochaetae, noticed as being longer than those of the remaining pairs of legs, is conspicuous even in the young female collected during the archaeological excavations in the old area of Lisboa.

Coletinia maggii (Grassi, 1887)

Material examined: France – Paris, Catacombes of the Museum, 26/XII/1947, 4 ♂♂ 1 ♀, no collector (MNHN).

Coletinia maggii was firstly collected in Italy (Sicily) and subsequently (WYGODZINSKY 1980) redescribed based on material from Italy mainland and from Yugoslavia, Dalmatia (now, Croatia); it was also mentioned for Malta and Italy (MENDES 1981) and for Austria and, again, for Italy (MENDES 1992). It is the very first time that the species is recorded to occur in France. The studied specimens, deposited in the entomological collection of the Paris Museum, were determined by Balazuc as *Nicoletia* sp.

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